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<u>L1</u> "	primary function" same "secondary function" same monitor\$3 same bus	1	<u>L1</u>

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DATE: Friday, June 24, 2005 Printable Copy Create Case

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<u>L1</u> 710/305,105,15;709/224,217,249;370/245,252,451;713/153,154;702/122,190;714/47,799.ccls. 15025 <u>L1</u>

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<u>L1</u>	710/305,105,15;709/224,217,249;370/245,252,451;713/153,154;702/122,190;714/47,799.ccls.	15025	L1

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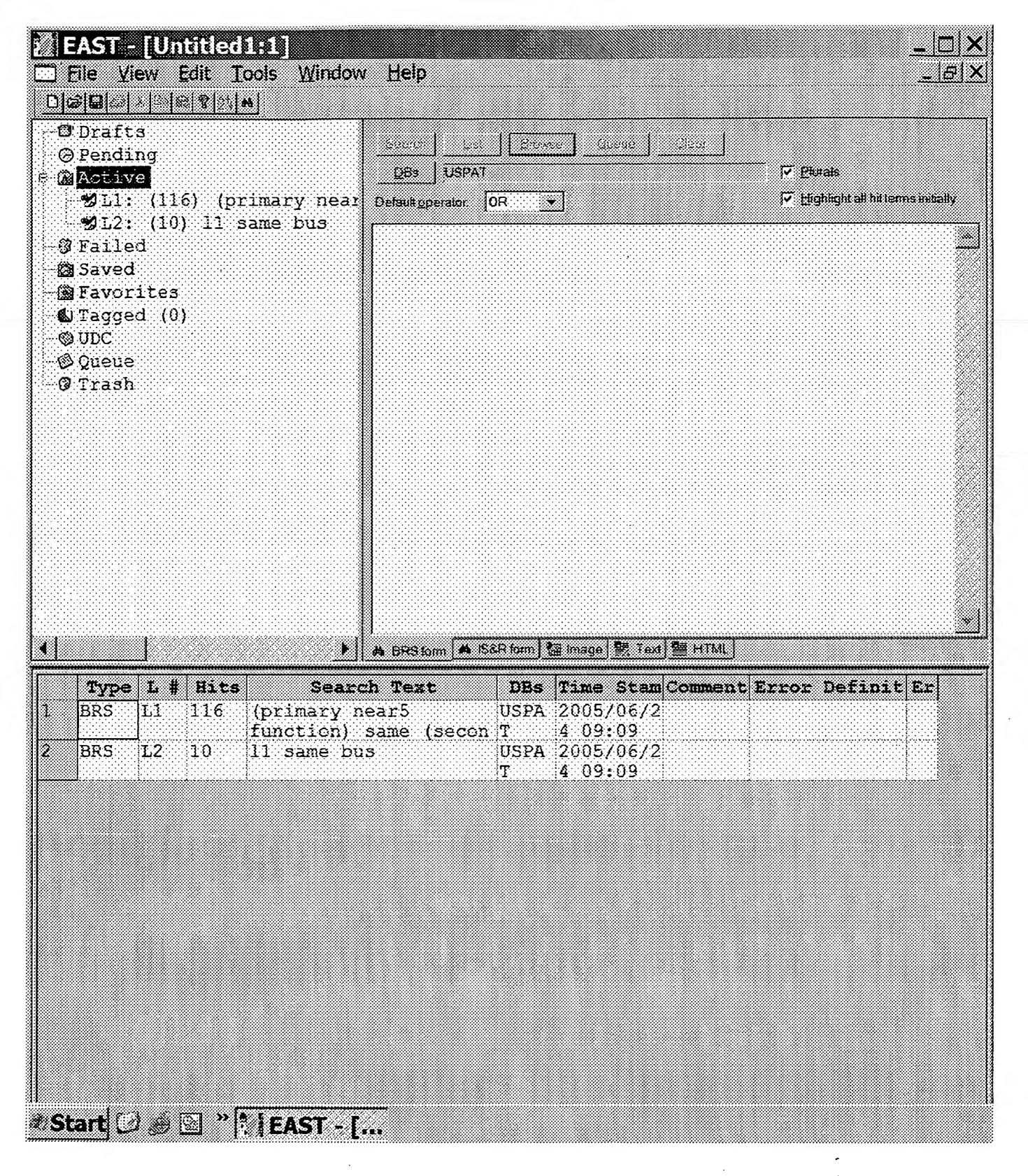
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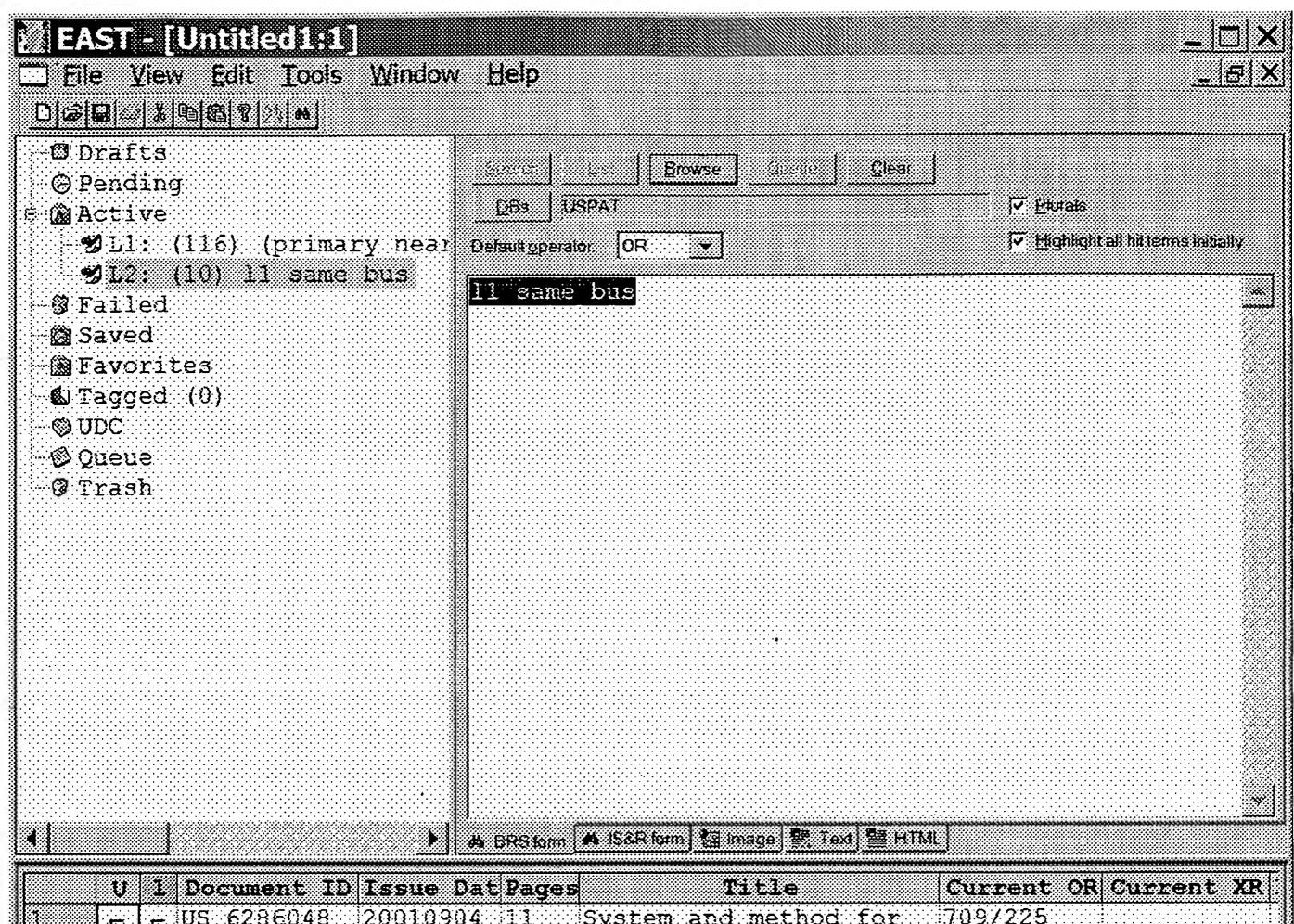
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2 <u>L1</u>





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1	Г	Γ	US	6286048	20010904	11	System and method for	709/225		
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			81				vehicle multiple contro		701/36;	
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6	F	Γ	US	5634025	19970527	26	distributed control sys Deterministic network protocol Method and system for efficiently fetchino va	712/201		
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144	. .	ſ	US .	4158208	19/90012	± 8	Setup control unit for television cameras Automatic setup system for television cameras	348/178	348/ZU1.	ナダ
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HEE JNL

IEE Journal or Magazine

ieee cnf

IEEE Conference Proceeding

IEE CNF

IEE Conference Proceeding

HEEE STR

IEEE Standard

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Citation

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Leak checker data acquisition system

Payne, J.; Gannon, J.;

Particle Accelerator Conference, 1993., Proceedings of the 1993

17-20 May 1993 Page(s):3870 - 3872 vol.5

AbstractPlus | Full Text: PDF(344 KB) (\$1888 CNF)

Space Shuttle RTOS Bayesian network

Morris, A.T.; Beling, P.A.;

Digital Avionics Systems, 2001. DASC. The 20th Conference Volume 1, 14-18 Oct. 2001 Page(s):4D5/1 - 4D5/13 vol.1

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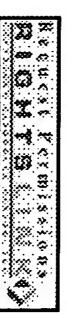
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Leak checker data acquisition system

Gannon, J.

Dept. of Electr. Eng., SSC Lab., Dallas, TX, USA;

This paper appears in: Particle Accelerator Conference, 1993., Proceedings of the 1993

On page(s): 3870 - 3872 vol.5 Publication Date: 17-20 May 1993

Meeting Date: 05/17/1993 - 05/20/1993

DOI: 10.1109/PAC.1993.309796 INSPEC Accession Number: 4795348 Location: Washington, DC

Posted online: 2002-08-06 18:59:02.0

graphical plotting of every channel within microseconds of when the helium was released into the vacuum. The readings are used to locate as the string of magnets approach critical test conditions A portable, high speed, computerized, data logging system is proposed. The primary function of this system is to collect 'helium readings' this system are the documentation of test conditions, archiving data sets for future reference, and providing a real-time display of all channels isolate a helium leak within 20 cm. Data logging enables technicians to witness the flight of the helium through the magnet string by a from mass spectrometers. This system monitors up to 14 mass spectrometers, operating from as far away as 1 kilometer, or clustered to vacuum leaks and provide acceptance testing of the vacuum system for a string of superconducting magnets. The secondary functions of

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Author Keywords

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Search Results - Record(s) 1 through 6 of 6 returned.

1. Document ID: US 20050076151 A1

L3: Entry 1 of 6 File: PGPB Apr

Apr 7, 2005

PGPUB-DOCUMENT-NUMBER: 20050076151

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050076151 A1

TITLE: Wireless bridge device within a process control system

PUBLICATION-DATE: April 7, 2005

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47

Tapperson, Gary Austin TX US
Boyd, Thomas Andrew Austin TX US

. US-CL-CURRENT: 709/249

Full Title Citation Front Review Classification Date Reference Sequences Atlachments Claims RMC Draw Desc Image

2. Document ID: US 20040139264 A1

L3: Entry 2 of 6 File: PGPB Jul 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040139264

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040139264 A1

TITLE: Bus station with integrated bus monitor function

PUBLICATION-DATE: July 15, 2004

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47

Gros, Thomas Neustadt DE Faist, Fridolin Oberwolfach DE

US-CL-CURRENT: 710/305

Full Title Citation Front Review Classification Date Reference Sequences Attachments Claims KMC Draw. Desc Image

3. Document ID: US 6327620 B1

L3: Entry 3 of 6 File: USPT Dec 4, 2001

Record List Display

Page 2 of 3

US-PAT-NO.: 6327620

DOCUMENT-IDENTIFIER: US 6327620 B1

TITLE: Methods and apparatus for collecting, storing, processing and using network traffic data

Full Title Citation Front Review Classification Date Reference Claims KMC Draw Desc Image

4. Document ID: US 6279037 B1

L3: Entry 4 of 6

File: USPT

Aug 21, 2001

US-PAT-NO: 6279037

DOCUMENT-IDENTIFIER: US 6279037 B1

TITLE: Methods and apparatus for collecting, storing, processing and using network traffic data

Full Title Citation Front Review Classification Date Reference Claims KWC Draw Desc Image

5. Document ID: US 5793963 A

L3: Entry 5 of 6

File: USPT

Aug 11, 1998

US-PAT-NO: 5793963

DOCUMENT-IDENTIFIER: US 5793963 A

TITLE: Apparatus for providing non-redundant secondary access to field devices in a distributed

control system

Full Title Citation Front Review Classification Date Reference Claims 1000 Draw Desc Image

6. Document ID: US 5699348 A

L3: Entry 6 of 6

File: USPT

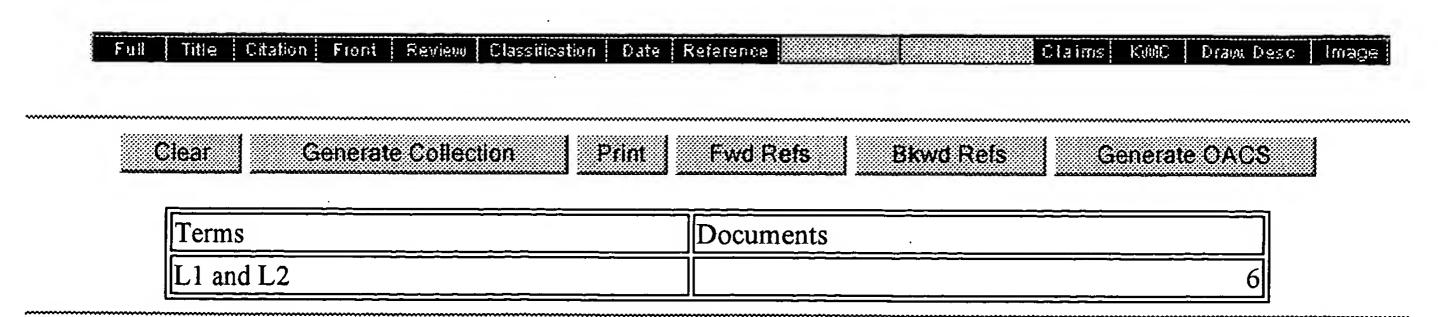
Dec 16, 1997

US-PAT-NO: 5699348

DOCUMENT-IDENTIFIER: US 5699348 A

TITLE: Method and apparatus for error performance monitoring of a leased telecommunication

circuit



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Clear Generate Collection Print Fwd Refs Bkwd Refs Generate OACS

Search Results - Record(s) 1 through 10 of 27 returned.

1. Document ID: US 20050057224 A1

L3: Entry 1 of 27 File: PGPB Mar 17, 2005

PGPUB-DOCUMENT-NUMBER: 20050057224

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050057224 A1

TITLE: Alternating-source peak-shift power application system, method and program product

PUBLICATION-DATE: March 17, 2005

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47

Naitoh, Arimasa Fujisawa-shi JP Odaohhara, Shigefumi Yamato-shi JP

US-CL-CURRENT: 320/128

Full Title Citation Front Review Classification Date Reference Sequences Atlachments Claims RMC	Drawl Desc Im	KOME	Claims	Atlachments	Sequences	Reference	Date	Classification	Review	Front	Citation	Title	Fall
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2. Document ID: US 20040239173 A1

L3: Entry 2 of 27 File: PGPB Dec 2, 2004

PGPUB-DOCUMENT-NUMBER: 20040239173

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040239173 A1

TITLE: Redundant architecture for brake-by-wire system

PUBLICATION-DATE: December 2, 2004

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47 Williams, Aaron Charles Hinesburg VT US Ash, Bryan Antony Bristol VT US Conklin, Peter Stanton South Burlington VTUS Zwick, David Pittsford NY US Townsend, David Montreal CA

US-CL-CURRENT: 303/3

3. Document ID: US 20040215569 A1

L3: Entry 3 of 27 File: PGPB Oct 28, 2004

PGPUB-DOCUMENT-NUMBER: 20040215569

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040215569 A1

TITLE: Method to ensure a unique machine serial number

PUBLICATION-DATE: October 28, 2004

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47 Agha, Salim Ahmed Rochester MN US Birkestrand, Daniel Charles Rochester MN US Igel, Stephen Mark Rochester MN US Lewis, David Otto Rochester US MN

US-CL-CURRENT: 705/57

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Full Title Citatio	n Front Review		te Reference		Attachments Claims		raww Desc	Image
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4. Document ID: US 20040139264 A1

L3: Entry 4 of 27 File: PGPB Jul 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040139264

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040139264 A1

TITLE: Bus station with integrated bus monitor function

PUBLICATION-DATE: July 15, 2004

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47

Gros, Thomas Neustadt DE Faist, Fridolin Oberwolfach DE

US-CL-CURRENT: 710/305

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC	Drave Desc	Image
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5. Document ID: US 20030216969 A1

L3: Entry 5 of 27 File: PGPB Nov 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030216969

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030216969 A1

TITLE: Inventory management system

Record List Display

PUBLICATION-DATE: November 20, 2003

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47

Bauer, Donald G. Laurel MD US Campero, Richard J. Ellicott City MD US

Rasband, Paul B. Frederick MD US
Weel, Martin D. Coto De Caza CA US

US-CL-CURRENT: 705/22; 235/385, 340/5.92

Full Title	Citation	Front Review	Classification	Date R	Reference Sequen	es Attachments	Claims	KOMC	Drawi Desc	Image
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6. Document ID: US 20030204657 A1

L3: Entry 6 of 27 File: PGPB Oct 30, 2003

PGPUB-DOCUMENT-NUMBER: 20030204657

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030204657 A1

TITLE: Method and apparatus for BIOS control of electrical device address/identification

assignments

PUBLICATION-DATE: October 30, 2003

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47

Lehwalder, Philip R. Portland OR US Barmore, Brad A. Portland OR US

US-CL-CURRENT: 710/301

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments C	laims	KORC	Draw Desc	Imag
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7. Document ID: US 20020065582 A1

L3: Entry 7 of 27 File: PGPB May 30, 2002

PGPUB-DOCUMENT-NUMBER: 20020065582

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020065582 A1

TITLE: Electro-statically-shielded processing module

PUBLICATION-DATE: May 30, 2002

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47

Morrison, Brian D. Hopkinton MA US Connolly, Paul A. Milford MA US

US-CL-CURRENT: 700/286; 700/22, 73/1.35

Classification Date Reference Sequences Attachments Claims Draw Desc Title Citation Front Review 8. Document ID: US 6826715 B1

L3: Entry 8 of 27

File: USPT

Nov 30, 2004

US-PAT-NO: 6826715

DOCUMENT-IDENTIFIER: US 6826715 B1

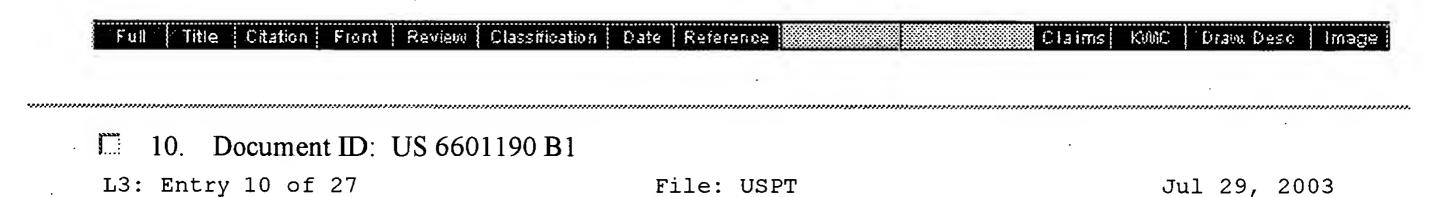
TITLE: Automatic capture and comparison of computer configuration data

Citation Front Review Classification Date Reference Claims Drawe Desc 9. Document ID: US 6807149 B1 L3: Entry 9 of 27 Oct 19, 2004 File: USPT

US-PAT-NO: 6807149

DOCUMENT-IDENTIFIER: US 6807149 B1

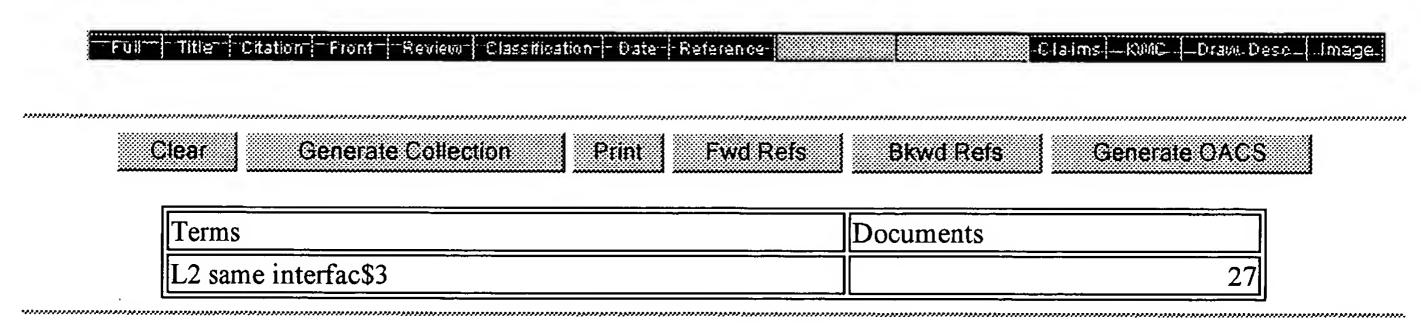
TITLE: Method and system for LEC resiliency with fast failover



US-PAT-NO: 6601190

DOCUMENT-IDENTIFIER: US 6601190 B1

TITLE: Automatic capture and reporting of computer configuration data



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Search Results - Record(s) 11 through 20 of 27 returned.

11. Document ID: US 6600972 B2

L3: Entry 11 of 27

File: USPT

Jul 29, 2003

US-PAT-NO: 6600972

DOCUMENT-IDENTIFIER: US 6600972 B2

TITLE: Electro-statically-shielded processing module

Review Classification Date Reference Citation Front Claims Drawi Desc

12. Document ID: US 6426957 B1

L3: Entry 12 of 27

File: USPT

Jul 30, 2002

US-PAT-NO: 6426957

DOCUMENT-IDENTIFIER: US 6426957 B1

TITLE: Asynchronous transfer mode based service consolidation switch

Title: Citation Front Review Classification Date Reference Claims - KMC

13. Document ID: US 6356809 B1

L3: Entry 13 of 27

File: USPT

Mar 12, 2002

DOCUMENT-IDENTIFIER: US 6356809 B1

** See image for Certificate of Correction **.

TITLE: Electro-statically shielded processing module

Title Citation Front Review Classification Date Reference Claims KMC Drawe Deso

14. Document ID: US 6314523 B1

L3: Entry 14 of 27

File: USPT

Nov 6, 2001

US-PAT-NO: 6314523

DOCUMENT-IDENTIFIER: US 6314523 B1

TITLE: Apparatus for distributing power to a system of independently powered devices

Title Citation Front Review Classification Date Reference

Record List Display Page 2 of 3

15. Document ID: US 6295090 B1

L3: Entry 15 of 27 File: USPT Sep 25, 2001

US-PAT-NO: 6295090

DOCUMENT-IDENTIFIER: US 6295090 B1

TITLE: Apparatus for providing video resolution compensation when converting one video source

to another video source

Full Title Citation Front Review Classification Date Reference Claims 10MC Draw, Desc Image

16. Document ID: US 6201580 B1

L3: Entry 16 of 27 File: USPT Mar 13, 2001

US-PAT-NO: 6201580

DOCUMENT-IDENTIFIER: US 6201580 B1

** See image for <u>Certificate of Correction</u> **

TITLE: Apparatus for supporting multiple video resources

Full Title Citation Front Review Classification Date Reference Claims KMC Draw Desc Image

17. Document ID: US 6157464 A

L3: Entry 17 of 27 File: USPT Dec 5, 2000

US-PAT-NO: 6157464

DOCUMENT-IDENTIFIER: US 6157464 A

TITLE: Facsimile store and forward system with local interface

Full Title Citation Front Review Classification Date Reference

18. Document ID: US 6044207 A

L3: Entry 18 of 27 File: USPT Mar 28, 2000

US-PAT-NO: 6044207

DOCUMENT-IDENTIFIER: US 6044207 A

TITLE: Enhanced dual port I/O bus bridge

Full Title Citation Front Review Classification Date Reference

19. Document ID: US 5930237 A

L3: Entry 19 of 27 File: USPT Jul 27, 1999

US-PAT-NO: 5930237

DOCUMENT-IDENTIFIER: US 5930237 A

TITLE: Video conference system with ATM cell reuse

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	20). I	Document	t ID:	US 585	50395 A							

L3: Entry 20 of 27

File: USPT

Dec 15, 1998

US-PAT-NO: 5850395

DOCUMENT-IDENTIFIER: US 5850395 A

** See image for <u>Certificate of Correction</u> **

TITLE: Asynchronous transfer mode based service consolidation switch

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Search Results - Record(s) 21 through 27 of 27 returned.

21. Document ID: US 5559611 A

L3: Entry 21 of 27 File: USPT Sep 24, 1996

US-PAT-NO: 5559611

DOCUMENT-IDENTIFIER: US 5559611 A

TITLE: Facsimile store and forward system with local interface

Full Title Citation Front Review Classification Date Reference

22. Document ID: US 5555100 A

L3: Entry 22 of 27 File: USPT Sep 10, 1996

US-PAT-NO: 5555100

DOCUMENT-IDENTIFIER: US 5555100 A

TITLE: Facsimile store and forward system with local interface translating DTMF signals into

store and forward system commands

Full Title Citation Front Review Classification Date Reference

23. Document ID: US 5517631 A

L3: Entry 23 of 27 File: USPT May 14, 1996

US-PAT-NO: 5517631

DOCUMENT-IDENTIFIER: US 5517631 A

TITLE: Miniature disk drive having embedded sector servo with split data fields and automatic

on-the-fly data block sequencing

Full Title Citation Front Review Classification Date Reference Claims KMC Draw Desc Image

24. Document ID: US 4805171 A

L3: Entry 24 of 27 File: USPT Feb 14, 1989

US-PAT-NO: 4805171

DOCUMENT-IDENTIFIER: US 4805171 A

TITLE: Unitary PCM rate converter and multiframe buffer

25. Document ID: US 4695944 A

L3: Entry 25 of 27

File: USPT

Sep 22, 1987

US-PAT-NO: 4695944

DOCUMENT-IDENTIFIER: US 4695944 A

TITLE: Computer system comprising a data, address and control signal bus which comprises a left

bus and a right bus

Full Title Citation Front Review Classification Date Reference Claims KWC Draw Desc Image

26. Document ID: US 4489438 A

L3: Entry 26 of 27

File: USPT

Dec 18, 1984

US-PAT-NO: 4489438

DOCUMENT-IDENTIFIER: US 4489438 A

TITLE: Audio response system

27. Document ID: US 3432841 A

L3: Entry 27 of 27

File: USOC

Mar 11, 1969

US-PAT-NO: 3432841

DOCUMENT-IDENTIFIER: US 3432841 A

TITLE: STATUS INDICATING AND ALARM ANNUNCIATING SYSTEMS FOR ELECTRICALLY POWERED DEVICES

DATE-ISSUED: March 11, 1969

INVENTOR-NAME: CLAY CHARLES L; HARVEY HERBERT; SIMS MARTIN H

US-CL-CURRENT: 340/635, 340/654, 361/23

Full Title Citation Front Review Classification Date Reference Claims KWC Draws Desc Image

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Generate Collection

L3: Entry 25 of 27

File: USPT

Sep 22, 1987

US-PAT-NO: 4695944

DOCUMENT-IDENTIFIER: US 4695944 A

TITLE: Computer system comprising a data, address and control signal bus which comprises a left

bus and a right bus

DATE-ISSUED: September 22, 1987

INVENTOR-INFORMATION:

ZIP CODE COUNTRY CITY STATE NAME

Beekbergen Zandveld; Frederik NLBeekbergen NLVisser; Jeroen M.

ASSIGNEE-INFORMATION:

CITY STATE COUNTRY TYPE CODE NAME ZIP CODE

U.S. Philips Corporation 02 New York NY

[PALM] APPL-NO: 06/ 910796 DATE FILED: September 22, 1986

PARENT-CASE:

This is a continuation of application Ser. No. 495,379, filed May 17, 1983, now abandoned.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY APPL-NO APPL-DATE

8202060 May 19, 1982 NL

INT-CL: [04] G06F 13/14, G06F 13/38

US-CL-ISSUED: 364/200 US-CL-CURRENT: 710/105

FIELD-OF-SEARCH: 364/2MSFile, 364/9MSFile

PRIOR-ART-DISCLOSED:

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ART-UNIT: 232

PRIMARY-EXAMINER: Eng; David Y.

ATTY-AGENT-FIRM: Haken; Jack E. Cannon, Jr.; James J.

ABSTRACT:

A computer system comprises a bus for data, address and control signals which is divided into a left bus and a right bus by a first gating device. The gating device has an open state which is character-wise activated by a right bus request transported on the left bus. Furthermore, the gating device conducts start signals from a processor station connected to the left bus and interrupt signals from a peripheral apparatus connected to the right bus. In the closed state of the gating device, bulk data transport is possible on the right bus without interfering with the processor station. The processing speed is thus increased.

7 Claims, 7 Drawing figures

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L1: Entry 1 of 1 File: PGPB Jul 15, 2004

DOCUMENT-IDENTIFIER: US 20040139264 A1

TITLE: Bus station with integrated bus monitor function

Summary of Invention Paragraph:

[0020] This problem is solved according to a first aspect of the invention by a newly designed bus station such as a sensor, an actuator, a control unit or a gateway, etc. combining the primary function of each device with a secondary function, i.e. the bus monitor function, by integrating a bus monitoring means in the bus station. In the context of the present invention, the primary function refers to the main purpose of each bus station, i.e. the device to be coupled to the bus for which it is used. For example, the primary function of a sensor is to detect physical processes and to convert them into electrical or digital signals that may be further processed and evaluated. According to the invention, each bus station, apart from this primary function, also uses the bus interface, already present for the purposes of process data communication, to carry out the monitoring of the bus system as a secondary task.

CLAIMS:

- 1. A <u>bus</u> station having a <u>primary function</u> such as a sensor function and that may be coupled to a <u>bus</u> system, comprising: at least one <u>bus</u> interface for communication of said <u>bus</u> station with said <u>bus</u> system, and a <u>bus monitor</u> means integrated with said <u>bus</u> station and coupled to said <u>bus</u> interface, said <u>bus monitor</u> means giving said <u>bus</u> station a <u>secondary function</u>, <u>wherein said bus monitor</u> means is adapted for at least one of the following activities: <u>monitoring</u> of the communication of said <u>bus</u> station with said <u>bus</u> system via said <u>bus</u> interface, and <u>monitoring</u> of the internal communication within said bus station.
- 23. A network having at least one <u>bus</u> system and at least one <u>bus</u> station having a <u>primary</u> <u>function</u>, such as a sensor function, and which may be coupled to a <u>bus</u> system, wherein said <u>bus</u> station comprises at least one <u>bus</u> interface for communication of said <u>bus</u> station with said <u>bus</u> system, and a <u>bus monitor</u> means; wherein said <u>bus monitor</u> means is integrated with said <u>bus</u> station and coupled to said <u>bus</u> interface, and giving said <u>bus</u> station a <u>secondary function</u>, <u>wherein said bus monitor</u> means is adapted for <u>monitoring</u> of the communication of said <u>bus</u> station with said <u>bus</u> system via said <u>bus</u> interface, wherein said network is <u>monitored</u> by means of said bus monitor means integrated with said bus station.
- 24. A method for carrying out monitoring processes of a <u>bus</u> system, comprising: coupling a <u>bus</u> station to said <u>bus</u> system, wherein said <u>bus</u> station has a <u>primary function</u> such as a sensor function, and comprising at least one <u>bus</u> interface for communication of said <u>bus</u> station with said <u>bus</u> system, and a <u>bus monitor means</u>; wherein said <u>bus monitor means</u> is integrated with said <u>bus</u> station and coupled to said <u>bus</u> interface, wherein said <u>bus monitor means</u> gives a <u>secondary function to said bus</u> station in the form of said <u>monitoring</u>, <u>monitoring</u> the communication of said <u>bus</u> station with said <u>bus</u> system via said <u>bus</u> interface by means of said <u>bus monitor means</u>.
- 27. A method for carrying out <u>monitoring</u> processes of a <u>bus</u> system, comprising: coupling a <u>bus</u> station to said <u>bus</u> system, wherein said <u>bus</u> station has a <u>primary function</u> such as a sensor function, and comprising at least one <u>bus</u> interface for communication of said <u>bus</u> station with said <u>bus</u> system, and a <u>bus monitor</u> means; wherein said <u>bus monitor</u> means is integrated with said <u>bus</u> station and coupled to said <u>bus</u> interface, wherein said <u>bus monitor</u> means gives a <u>secondary function to said bus</u> station in the form of said <u>monitoring</u>, <u>monitoring</u> the internal communication of said <u>bus</u> station by means of said <u>bus monitor</u> means.

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L1: Entry 1 of 1

File: PGPB

Jul 15, 2004

PGPUB-DOCUMENT-NUMBER: 20040139264

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040139264 A1

TITLE: Bus station with integrated bus monitor function

PUBLICATION-DATE: July 15, 2004

INVENTOR-INFORMATION:

NAME CITY STATE COUNTRY RULE-47

Gros, Thomas Neustadt DE Faist, Fridolin Oberwolfach DE

APPL-NO: 10/ 623199 [PALM]
DATE FILED: July 18, 2003

RELATED-US-APPL-DATA:

Application is a non-provisional-of-provisional application 60/397558, filed July 18, 2002,

INT-CL: $[07] \underline{G06} \underline{F} \underline{13}/\underline{14}$

US-CL-PUBLISHED: 710/305 US-CL-CURRENT: 710/305

REPRESENTATIVE-FIGURES: 1

ABSTRACT:

The present invention relates to a bus station (14; 15; 23) such as a sensor (14), an actuator (15) or a gateway (23) fulfilling, apart from their primary device immanent function, a secondary function, namely a bus monitor function. In order to be able to fulfil said secondary function, the bus stations (14; 15; 23) are each equipped with a bus monitor means (30) which makes it possible to access, to detect and to further process the telegram traffic carried on the bus system (5; 40). The invention also relates to a network equipped with such bus stations (14; 15; 23) and a method for carrying out such monitoring with the aid of said bus stations (14; 15; 23).

PRIORITY CLAIM

[0001] This application claims the benefit of U.S. Provisional Patent Application Serial No. 60/397,558 filed on Jul. 18, 2002 which is expressly incorporated herein, in its entirety, by reference.

network protocol for communication with a plurality of intelligent nodes 12, 14, 16, 18, 20. Such hodes 12-20 are connected to one or more bi-directional serial buses 21, 22, 23, each of said buses being a single fiber optic ring in the preferred embodiment. The number of nodes shown in FIG. 1 is only representative of a system and one skilled in the art will recognize that many node configurations are feasible depending on the particular system application. The system 10 is particularly useful for aircraft control by providing a low cost fault-tolerant control-by-light. TM. distributed intelligence system for sensing and control across fault tolerant fiber optic networks. The system 10 uses the distributed local intelligent nodes 12-20 to sense and/or control physical parameters and actuators with messages being passed across redundant serial buses 21,22,23 whenever sense or control information changes. In order to achieve fault tolerant operation, two, three or four or more redundant data buses are employed depending upon the criticality, and redundancy is also employed in certain intelligent nodes performing critical functions such as sensor/actuator functions in an aircraft control system. The coupling of the nodes 12-20 to the serial data buses is accomplished by transceivers 26. sub.1-N and each transceiver 26. sub.1-N is connected to a digital control and communication processor (DCCP) 28 sub.1-N. Each combination of a transceiver and a DCCP may be referred to as a processing element. This system 10 in an aircraft application replaces mechanical, hydraulic and electrical controls now used by aircraft pilots to control, scritter, and display or issny and secondary flight control functions and it provides substantial weight, cost, safety and performance advantages over current techniques. This system 10 is applicable to control of other systems besides aircraft such as ground transportation, surface and submarine ships, spacecraft; utilities and industrial process controls. Although the data hims media in the present preferred embodiment is implemented with fiber optics, the deterministic network protocol is applicable to other medias such as twisted pair wiring and power lines.

[54] FAULT TOLERANT DISTRIBUTED CONTROL SYSTEM:

[75] Inventors: Brian D. Morrison, Hopkinson, Creig E. Wienke, Holliston: Martin R. Butten, North Grafton; Michael N. Rebillard, Showsbury, all of Mass.

[73] Assignce: Raytheon Company, Lexington, Mass.

[21] Appl. No.: 504,941

[22] Filed; Jul. 20, 1995

G06F-11/00 [31] Int. Cl. 395/1821; 395/185.06 [52] U.S. Cl. [58] Field of Search | 1. | 1. | 395/160, 182.02,

370/105; 105.4; 105.5; 371/47;1

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395/183.06, 184.01, 182.09, 182.1, 185.08;

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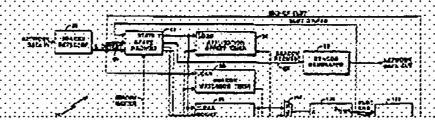
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Printary Examiner Rubert W. Bemisoliel, It. Assistant Examiner Joseph E. Palys Attorney, Agent, or Firm-Donald F. Molford

ABSTRACT

A fault tolerant distributed intelligence control system for sensing and control across fault tolerant fiber optic commimeetica meetic interconnecting a plurality of intelligent nodes. Each intelligent node comprises a cigital control and communication processor (DCCP) operating autonomously in relation to DCCPs at other codes, and a transcriver for interfacing with the communication media. The fiber optic communication media comprises bi-circulional serial data buses. The combination provides a low cost highly reliable distributed control system particularly applicable to primary and secondary aircraft control systems, as well as to other vehicle and cantrol systems.

16 Claims, 7 Drawing Sheets



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US-PAT-NO: 4158208

DOCUMENT-IDENTIFIER: US 4158205 A

TITUE: Automatic setup system for television cameras

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Detailed Description Text - DETX (29):

The encoder 166 comprises four such up/down counters or accumulators 166a, 166b, 166c and 166d which four accumulator outputs are sequentially provided each field to the gate 159 in response to gating signals sent via four leads 158 from commutator 157. Each of the leads 158 are coupled to a gating input of a different one of the accumulators. The commutator 157 is responsive to the vertical sync signal for sequentially gating during each field the four addresses selected by the primary and wonltoring buttons and for gating the data in the appropriate accumulator and for gating the repeat address following the data. If no data is present (no change in the knobs) a signal from that up/down counter or accumulator is sent via one of the four leads 162 to the commutator 157 to stop the repeat address. The data from the encoder 166 is in the form of an 8-bit code which is provided sequentially from the impulse up/down counters 166a through 166d to the gate 159. The commutator 157 provides a stop counter signal to the up/down counters or accumulators after the first address. The commutator 157 sequences the impulse up/down counters or accumulators 166a through 166d output during each field and provides a clear to these counters at the end of each field. The display ROM 160 is responsive to the 5-bit word from the primary function buttons and provides four addresses to the alphanumeric character generator 161. The alphanumeric character generator 161 is coupled to the appropriate display 163 to indicate the brimary Tametions controlled by the knobs. The secondary information (i.e. from the red; green, blue, horizontal and vertical buttons) is indicated by the lighting of the buttons. The alphanumeric display 163 can be flashed when there is an out of range condition in the correction. For example, when the data out of the adder/subtractor 113 in FIG. 8 is near zero or 256, the reverse data in the serial bit stream is detected at detector 165 via gate 167 and is coupled to display generator 161. When the red, green or blue switches 129, 130 and 131 are depressed, this is encoded in the 1 bit per line encoder 170 which provides a logic "1" or "0" out of gate 167 during the setup control unit switch function interval. This switch cutput is also directly coupled to the womitors. Similarly, the waveform most for awitch buttons are coupled to encoder 170 which provides the 1 bit per line code during the setup control unit switch function interval to the camera processor. Similarly, the condition switch functions indicated by some of the top buttons on the panel are placed on the output data bus by being applied to encoder 170 and applied to gate 167. The mode switch buttons are coupled to an encoder 176 which sends a code to a function ROM 177 which identifies the mode switch being depressed. The function ROM 177 when a code is applied provides an 8-bit address, 8-bit data of all logic "1" or all "0" followed by a repeat address to gate 167

[34] AUTOMATIC SETUP SYSTEM FOR TELEVISION CAMERAS.

[75] Inventor: Robert A. Dischert, Burlington, N.J.

[73] Assigned RCA Corporation, New York, N.Y.

[21] Appl. No.: 894,098

Dischert

[22] Filed: Apr. 6, 1978

Foreign Application Priority Data [30] May 30, 1977 [GE] United Kingdom 22511/77 HOAN 9/62 HOAN 9/04

358/10; 358/41; [52] U.S. CL. 358/183 358/10, 41, 183 [58] Piold of Search

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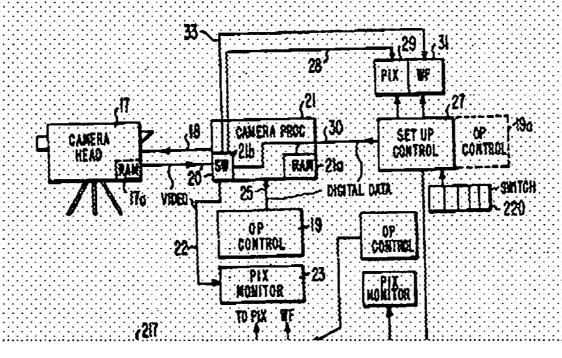
· [45]

Primary Examiner Robert L. Richardson Antorney, Agent, or Firm Buggine M. Whitecre; Paul J. Rasmusson; Robert L. Troike

ABSTRACT

An automatic serup unit for use with color TV cameras of the type including a digital memory for storing the control values for the camera. An antomatic setup unit which is responsive to the video from the camera when viewing a predetermined pattern, such as a chart for measuring errors, is coupled to the memory and provides control signals to the memory with the appropriate addresses for updating the memory and for applying the control values to the camera.

7 China 14 Drawing Figures



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L3: Entry 4 of 6 File: USPT Aug 21, 2001

DOCUMENT-IDENTIFIER: US 6279037 B1

TITLE: Methods and apparatus for collecting, storing, processing and using network traffic data

Brief Summary Text (14):

In order to facilitate the monitoring of network activity, remote monitoring (RMON) devices, often called monitors or probes, are sometimes used. These devices often serve as agents of a central network management station. Often the remote probes are stand-alone devices which include internal resources, e.g., data storage and processing resources, used to collect, process and forward, e.g., to the network management system, information on packets being passed over the network segment being monitored. In other cases, probes are built into devices such as a routers and bridges. In such cases, the available data processing and storage resources are often shared between a device's primary functions and its secondary traffic monitoring and reporting functions. In order to manage an intranet or other network comprising multiple segments many probes may be used, e.g., one per each network segment to be monitored.

<u>Current US Original Classification</u> (1):

709/224

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Page 1 of 1

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L3: Entry 5 of 6 File: USPT . Aug 11, 1998

DOCUMENT-IDENTIFIER: US 5793963 A

TITLE: Apparatus for providing non-redundant secondary access to field devices in a distributed

control system

<u>Detailed Description Text</u> (11):

More recently, field devices have been provided with microprocessors and additional functionality. Such "smart" field devices are capable of monitoring a plurality of process variables, performing a variety of control functions, performing comprehensive diagnostics, and providing a wide array of various types of status information. The Fieldbus specification specifies a variety of primary functions that may be supported by various Fieldbus field devices. In addition, many manufacturers have provided secondary functions beyond those specified in the Fieldbus specification. While Fieldbus field devices manufactured by different manufacturers are compatible to the extent that only Fieldbus specified functions are accessed, they are not compatible with respect to the secondary functions. For example, a Fieldbus controller manufactured by company A will generally not be able to access the secondary functions provided by a Fieldbus valve positioner manufactured by company B. Therefore, an industrial plant using a variety of Fieldbus components provided by different manufacturers will not be able to derive the benefit of all the functions provided by the various components.

<u>Current US Cross Reference Classification</u> (1): 709/217

<u>Current US Cross Reference Classification</u> (2): 709/224

Page 1 of 3

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L3: Entry 5 of 6

File: USPT

Aug 11, 1998

US-PAT-NO: 5793963

DOCUMENT-IDENTIFIER: US 5793963 A

TITLE: Apparatus for providing non-redundant secondary access to field devices in a distributed

control system

DATE-ISSUED: August 11, 1998

INVENTOR-INFORMATION:

CITY STATE ZIP CODE COUNTRY NAME

Tapperson; Gary Austin TX Boyd; Thomas Andrew Austin TX

ASSIGNEE-INFORMATION:

NAME CITY ZIP CODE COUNTRY TYPE CODE STATE

Fisher Rosemount Systems, Inc. 02 Austin TX

APPL-NO: 08/ 893126 [PALM] DATE FILED: July 15, 1997

PARENT-CASE:

This is a continuation of application Ser. No. 08/328,324, filed Oct. 24, 1994 now abandoned.

INT-CL: [06] <u>G06</u> <u>F</u> 11/30

US-CL-ISSUED: 395/200.31; 395/200.54, 395/200.47

US-CL-CURRENT: 709/201; 709/217, 709/224

FIELD-OF-SEARCH: 395/200.31, 395/200.54, 395/200.47

PRIOR-ART-DISCLOSED:

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ART-UNIT: 232

PRIMARY-EXAMINER: Geckil; Mehmet B.

ATTY-AGENT-FIRM: Kinney & Lange, P.A.

ABSTRACT:

An apparatus for accessing field devices in a distributed control system provides non-redundant secondary access to a plurality of field devices that are controlled by a control room. The field devices are coupled to a Fieldbus control network. In a first embodiment, each field device is provided with a wireless Fieldbus port that is accessible by a wireless handheld unit or wireless terminal. In a second embodiment, each Fieldbus control network is provided with a field module having a wireless Fieldbus port that allows all devices connected to the Fieldbus control network to be accessed by a wireless handheld unit or a wireless terminal. In a third embodiment, an H2-to-H1 Fieldbus bridge (which may service a plurality of H1 control networks) is provided with a wireless Fieldbus port that allows all Fieldbus devices connected to H1 control networks serviced by the H2-to-H1 bridge to be access by a wireless handheld unit of a wireless terminal. In a fourth embodiment, a bridge/converter provides an interface between older analog control room components and newer Fieldbus field devices. In one configuration, the bridge/converter includes a hard-wired Fieldbus port connected to a terminal, which may be in the control room. In another configuration, the bridge/converter includes a wireless Fieldbus port that allows a wireless handheld unit or a wireless terminal to access the Fieldbus devices serviced by the bridge/converter. The present invention allows a maintenance person to access Fieldbus field devices while servicing a device in the field, and allows

secondary functions of field devices (which vary by manufacturer) to be accessed from a single remote unit.

27 Claims, 3 Drawing figures

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File: USPT

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L3: Entry 6 of 6

Dec 16, 1997

DOCUMENT-IDENTIFIER: US 5699348 A

TITLE: Method and apparatus for error performance monitoring of a leased telecommunication circuit

Brief Summary Text (8):

The present invention relates to a method and apparatus for use in monitoring and analyzing statistical parameters corresponding to errors occurring in the transmission of data signals in a telecommunication system. Communication between two customer sites preferably occurs through the use of a leased line or circuit, which defines fixed paths between the customer terminals and which comprises a plurality of transmission media and a plurality of network elements, including a near end and a far end network element. Each network element preferably comprises a primary and secondary port, each of which functions in one of a plurality of modes, for example, a first mode, a second mode, or a third mode. According to one embodiment, each port is in either a terminated mode, a framed clear mode, or an unframed clear mode. Errors in the transmission of data signals are detected and collected in at least some of the ports each of which preferably processes the data it collects to produce statistical parameters such as errored-seconds or severely-errored-seconds. The statistical parameters are then sent to a central management system which executes a performance monitoring ("PM") count routine to determine the number of errored-seconds, or severely-errored-seconds, associated with each direction of transmission in the customer circuit.

<u>Current US Cross Reference Classification</u> (1): 370/252

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L3: Entry 6 of 6

File: USPT

Dec 16, 1997

US-PAT-NO: 5699348

DOCUMENT-IDENTIFIER: US 5699348 A

TITLE: Method and apparatus for error performance monitoring of a leased telecommunication

circuit

DATE-ISSUED: December 16, 1997

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Baidon; Sami A. New Milford NJ Huang; Shirley L. Holmdel NJ

ASSIGNEE-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY TYPE CODE

Lucent Technologies Inc. Murray Hill 02 NJ

APPL-NO: 08/ 551136 [PALM] DATE FILED: October 31, 1995

INT-CL: $[06] \underline{H04} \underline{J} \underline{3/14}$

US-CL-ISSUED: 370/242; 370/252, 395/185.01 US-CL-CURRENT: <u>370/242</u>; <u>370/252</u>, <u>714/48</u>

FIELD-OF-SEARCH: 370/242, 370/243, 370/244, 370/252, 379/10, 379/24, 379/26, 395/183.01,

395/185.01

PRIOR-ART-DISCLOSED:

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Gerald D. Austin and Hilary B. Tomasson, "Unlocking the Value of Performance Monitoring Data," Telephony, Nov. 14, 1994, pp. 49-52.

ART-UNIT: 263

PRIMARY-EXAMINER: Olms; Douglas W.

ASSISTANT-EXAMINER: Jung; Min

ABSTRACT:

A method and apparatus for use in monitoring and analyzing statistical parameters corresponding to errors occurring in the transmission of data signals in a telecommunications network is disclosed. Communication between two customer sites occurs through the use of a leased line or circuit, which defines fixed paths between the customer terminals and which comprises a plurality of network elements. Statistical parameters, corresponding to errors detected and processed at ports in the network elements, are sent to a central management system which executes a performance monitoring count routine to determine the total number of errored-seconds, or severely-errored-seconds, or other statistical parameters associated with each direction of transmission in the customer circuit.

12 Claims, 5 Drawing figures

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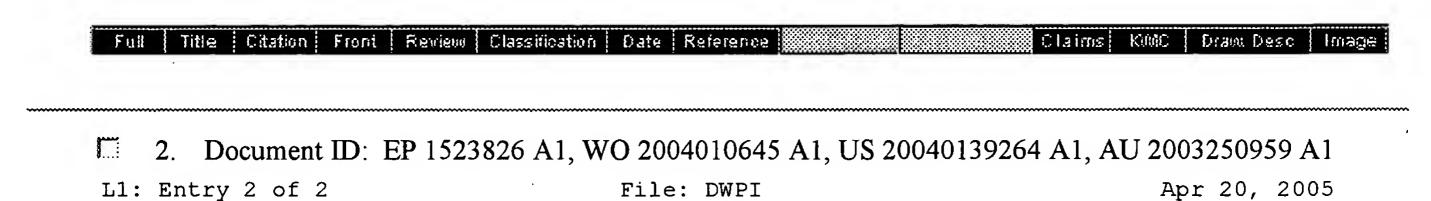
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Jan 17, 1984

PUB-NO: JP359008005A

DOCUMENT-IDENTIFIER: JP 59008005 A

TITLE: MULTIPLEXING DEVICE



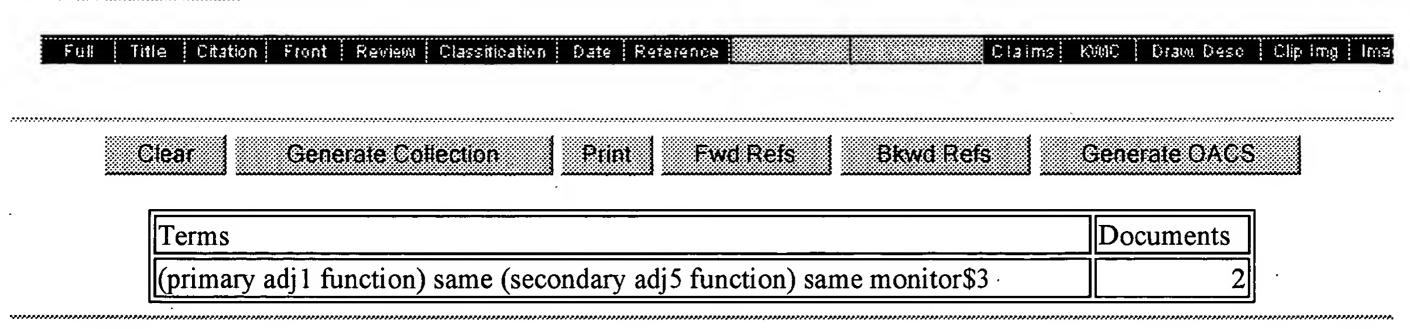
DERWENT-ACC-NO: 2004-143624

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TITLE: Communications bus station provides secondary bus monitoring function in addition to its

primary function



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DERWENT-ACC-NO: 2004-143624

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TITLE: Communications bus station provides secondary bus monitoring function in addition to its

primary function

INVENTOR: FAIST, F; GROS, T

PATENT-ASSIGNEE: VEGA GRIESHABER KG (VEGAN), FAIST F (FAISI), GROS T (GROSI)

PRIORITY-DATA: 2002US-397558P (July 18, 2002), 2003US-0623199 (July 18, 2003)

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PATE	PATENT-FAMILY:						
	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC		
	EP 1523826 A1	April 20, 2005	G	000	H04L012/24		
	WO 2004010645 A1	January 29, 2004	G	043	H04L012/24		
	US 20040139264 A1	July 15, 2004		000	G06F013/14		
	AU 2003250959 A1	February 9, 2004		000	H04L012/24		

DESIGNATED-STATES: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
EP 1523826A1	July 15, 2003	2003EP-0764993	
EP 1523826A1	July 15, 2003	2003WO-EP07666	
EP 1523826A1	•	WO2004010645	Based on
WO2004010645A1	July 15, 2003	2003WO-EP07666	
US20040139264A1	July 18, 2002	2002US-397558P	Provisional
US20040139264A1	July 18, 2003.	2003US-0623199	
AU2003250959A1	July 15, 2003	2003AU-0250959	
AU2003250959A1		WO2004010645	Based on

INT-CL (IPC): G06 F 13/14; H04 L 12/24; H04 L 12/26; H04 L 12/40

ABSTRACTED-PUB-NO: WO2004010645A

BASIC-ABSTRACT:

NOVELTY - The bus station, e.g. a sensor (14), actuator (15) or gateway (23), performs a secondary bus monitoring function in addition to its primary function via an integrated bus monitor device (30) allowing access to telegram traffic along the bus system (5), for recording and reprocessing. The bus stations are connected in a network allowing monitoring of the bus system via the bus stations.

DETAILED DESCRIPTION - Also included are INDEPENDENT CLAIMS for the following:

- (a) a network with a bus system and at least one bus station;
- (b) a method for monitoring a bus system

USE - The communications bus station is used performing a primary function and for monitoring the bus system.

ADVANTAGE - Existing bus stations are utilized for providing bus system monitoring function.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic representation of a bus system with integrated bus monitoring function in bus stations.

Bus system 5

Sensor 14

Actuator 15

Gateway 23

Bus monitor device 30

ABSTRACTED-PUB-NO: WO2004010645A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.7/10

DERWENT-CLASS: W01

EPI-CODES: W01-A06A; W01-A06B1;